

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6002
FACILITY NAME PENDLETON WOOLEN MILL, Washougal Mill
MARCH 2009

SUMMARY

PURPOSE of this Fact Sheet

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed State Waste Discharge permit for Pendleton Woolen Mills Washougal Mill that will allow the discharge of wastewater to the city of Washougal Wastewater Treatment Plant (POTW).

State law requires any industrial facility to obtain a permit before discharging waste or chemicals to waters of the state. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into waters of the state.

A State Waste Discharge permit limits the types and amounts of pollution the facility may discharge. Ecology bases those limits either on (1) the pollution control or wastewater treatment technology available to the industry, or on (2) the effects of the pollutants to the POTW (local limits).

PUBLIC ROLE in the Permit

Ecology makes the draft permit and fact sheet available for public review and comment at least 30 days before we issue the final permit to the facility operator. Copies of the fact sheet and draft permit for Pendleton Woolen Mills Washougal Mill's State Waste Discharge permit 6002, are available for public review and comment from February 11, 2009 until the close of business March 13, 2009. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement**.

Before Ecology published the draft State Waste Discharge permit, Pendleton Woolen Mills Washougal Mill, reviewed it for factual accuracy. Ecology corrected any errors or omissions about the facility's location, product type or production rate, discharges or receiving water, or its history.

After the public comment period closes, Ecology will summarize substantive comments and our responses to them. Ecology will include our summary and responses to comments to this Fact Sheet as **Appendix D - Response to Comments**, and publish it when we issue the final State Waste Discharge permit. The rest of the fact sheet will not be revised, but the full document will become part of the legal history contained in the facility's permit file.

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I. INTRODUCTION

The legislature defined Ecology's authority and obligations for the wastewater discharge permit program in 90.48 RCW (Revised Code of Washington).

Ecology adopted rules describing how it exercises its authority:

- State Waste Discharge Program (Chapter 173-216 WAC)
- Submission of Plans and Reports for Construction of Wastewater Facilities (Chapter 173-240 WAC)

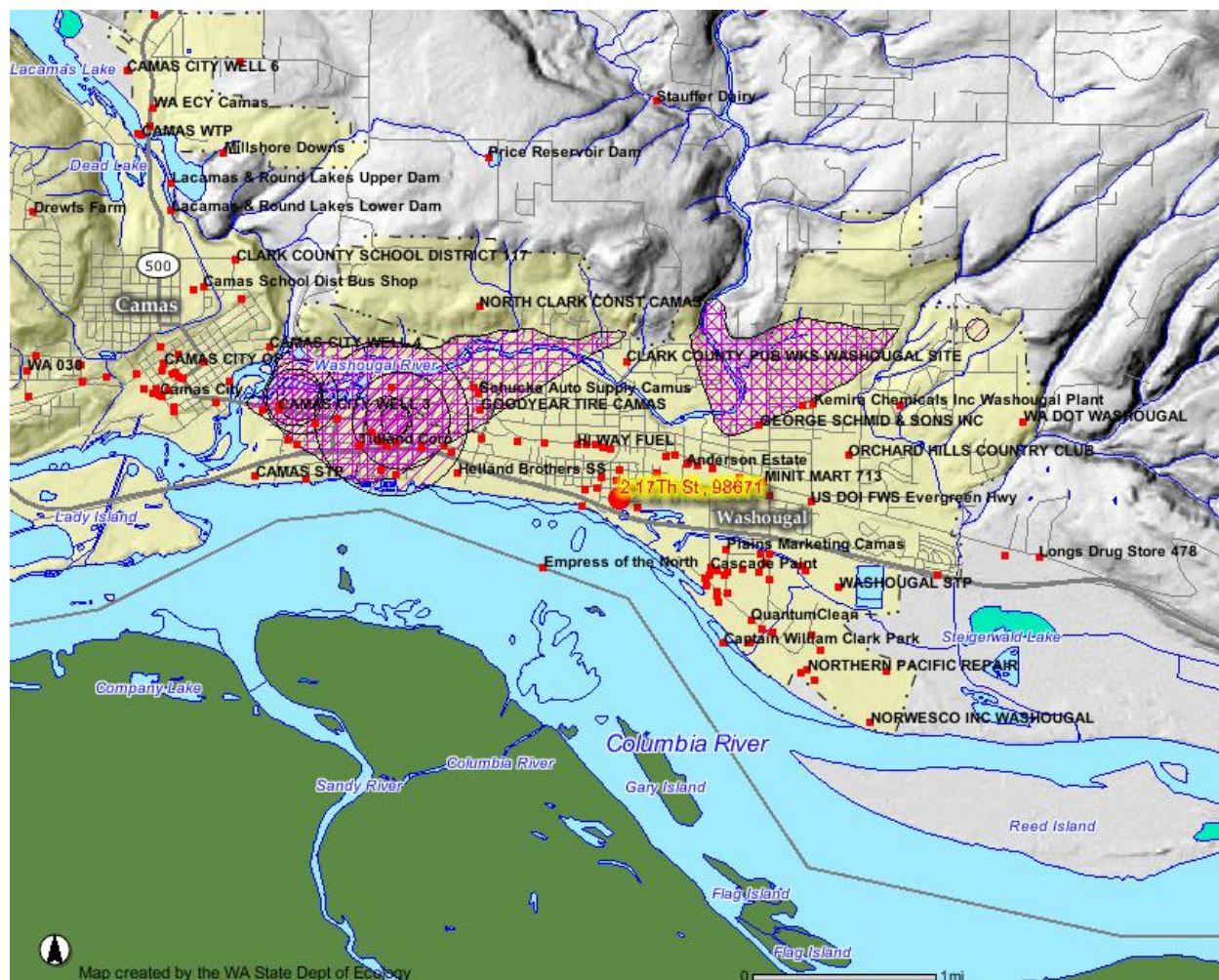
These rules require any industrial facility operator to obtain a State Waste Discharge permit before discharging wastewater to state waters. This rule includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. They also help define the basis for limits on each discharge and for other performance requirements imposed by the permit.

Under the State Waste Discharge permit program and in response to a complete and accepted permit application Ecology must prepare a draft permit and accompanying fact sheet, and make it available for public review before final issuance. Ecology must also publish an announcement (public notice) telling people where they can read the draft permit, and where to send their comments, during a period of thirty days. (See **Appendix A--Public Involvement** for more detail about the Public Notice and Comment procedures). After the Public Comment Period ends, Ecology may make changes to the draft State Waste Discharge permit in response to comment. Ecology will summarize the responses to comments and any changes to the permit in **Appendix D**.

Table 1 - General Facility Information

Applicant	Pendleton Woolen Mills
Facility Name and Address	Washougal Mill 2-17th Street; Washougal, WA 98671-0145
Type of Facility	Broadwoven Fabric Mills (Wool)
Standard Industrial Classification (SIC)	2231
Facility Discharge Location	Latitude: 45° 34' 27" N Longitude: 122° 21' 04" W
Publicly Owned Treatment Works (POTW) Receiving Discharge	City of Washougal Wastewater Treatment Plant (POTW)
Contact at Facility	Name: Charles B. Bishop Telephone #: 360-835-2131 x227
Responsible Official	Name: Charles B. Bishop Title: Plant Manager Address: 2-17th Street; Washougal, WA 98671-0145 Telephone #: 360-835-2131 x227 FAX # 360-835-5451

Figure 1. Facility Location Map



II. BACKGROUND INFORMATION

A. Facility Description

History

Pendleton Woolen Mills owns and operates the Washougal Mill. Pendleton Woolen Mill's headquarters is located in Portland, Oregon. The Washougal Mill was built in 1910. The mill discharges its industrial wastewater to the city of Washougal Wastewater Treatment Plant (POTW). It is an existing discharge; however classified as a new source for the purpose of discharge to the POTW. Ecology proposes to renew the permit.

Industrial Process

The mill is a significant industrial user and subject to categorical pretreatment standards codified in 40 CFR Part 410 Subpart B. The Washougal Mill is a textile mill engaged in wool processing and finishing, including dyeing, mixing, carding, spinning, mixing, dressing, weaving, and finishing. See Appendix C for Production Schematic.

The mill uses scored wool, worsted wool and non-wool yarns in production resulting in approximately 8,000 pounds of products per day (based on 2006 finished wool production data). Products include dyed and finished woolen yarns, apparels, blankets, home and upholstery fabrics. The mill does not anticipate any significant increases or decreases in production. There is also no seasonal variation in production; however the mill closes for a week or two during Christmas time.

Industrial wastewater is generated from the boiler/HVAC, wool dyeing, carding and spinning, mixing, dressing and weaving, and finishing.

Through the years Washougal Mill reduced metals like chromium, copper & cadmium in dyes. Washougal Mill plans to evaluate an option to discharge industrial wastewater directly to the POTW without a pretreatment to save energy and other operation costs.

The mill operates continuously five days a week and closes production on weekends and holidays.

Wastewater Pretreatment

The wastewater treatment plant has operated continuously since the early 1970s. Since original construction, the mill has made a number of facility improvements improve operation and performance of the plant, including construction of a new wastewater pump station and equalization tank.

The mill used to collect and route process wastewater to an equalization basin (ballast pond). The "ballast pond" was taken off line as of January of 1991, and replaced with a new wastewater pump station and equalization tank. The mill currently collects and sends the wastewater to the vaulted pump station (with secondary containment) where it is screened and pumped to a 300,000 gallon equalization tank. The equalization tank moderates daily flows and provides storage for maintaining weekend and holiday flows to the activated sludge treatment plant. The activated sludge treatment plant includes a one million gallon aerated lagoon, a secondary clarifier, and a waste/return activated sludge system. The mill discharges treated wastewater to the POTW and discharges waste activated sludge with the effluent once a day during a 30-minute period. Domestic wastewater is routed directly to the sanitary sewer.

See Appendix C for water balance and wastewater pretreatment schematic.

The treatment system operates continuously and is not staffed.

The mill requested a 700,000 gallons per day (gpd) maximum daily limit and a 400,000 gpd average monthly limit, although water usage and wastewater discharge are smaller.

Discharge Location to the City of Washougal

The mill samples effluent using an automatic sampler. Samples are taking from the effluent pump station which pumps wastewater into the city of Washougal sanitary sewer system.

Solid Wastes

Activate sludge generated during the wastewater treatment is discharged with effluent to the POTW.

B. Permit Status

The mill submitted an application for permit renewal on January 22, 2007. Ecology accepted it as complete on January 29, 2007.

Ecology issued the previous permit for this facility on July 1, 2003. The previous permit placed effluent limits on:

- Flow
- pH
- Chromium
- Copper
- Lead
- Molybdenum
- Zinc
- Oil and grease

C. Summary of Compliance with Previous Permit Issued

Ecology staff last conducted a non- sampling compliance inspection on September 22, 2008.

The mill has complied with the effluent limits and permit conditions throughout the duration of the permit issued on July 1, 2003. Ecology assessed facility compliance based on its inspections and its review of the facility's Discharge Monitoring Reports (DMRs).

D. Wastewater Characterization

Washougal Mill reported the concentration of pollutants in the State Waste Discharge application (Table 2) and in discharge monitoring reports (Table 3). The tabulated data represents the quality of the effluent discharged from July 1, 2003. The effluent is characterized as follows:

Table 2: Wastewater Characterization—State Waste Discharge application.

Parameter	Average Concentration	Maximum Concentration
Biochemical Oxygen Demand, 5-day (BOD ₅), milligrams per liter (mg/L)	7.4	10.2
Total Suspended Solids (TSS), mg/L	24.4	45.0
pH	7.38-8.20	
Arsenic, micrograms per liter (µg/L)	-	<50
Cadmium, µg/L	-	<5
Chromium, µg/L	-	20
Copper, µg/L	-	<20
Lead, µg/L	-	<5
Mercury, µg/L	-	<0.02
Molybdenum, µg/L	-	<10

Parameter	Average Concentration	Maximum Concentration
Nickel, µg/L	-	<20
Selenium	-	<35
Silver, µg/L	-	<10
Zinc, µg/L	-	90
Oil and grease (total petroleum and vegetable oil), mg/L	8.78	12.6

Table 3: Wastewater Characterization—Discharge Monitoring Reports.

Parameter	Average Concentration	Maximum Concentration
Flow, gallons per day (gpd)	138,000	371,000
Biochemical Oxygen Demand, 5-day (BOD ₅), milligrams per liter (mg/L)	7.3	20
Total Suspended Solids (TSS), mg/L	23	110
pH	6.6-8.6	
Chromium, µg/L	16	64
Copper, µg/L	16	84
Lead, µg/L	6.8	80
Molybdenum, µg/L	9.7	43
Zinc, µg/L	107	540
Oil and grease (total petroleum and vegetable oil), mg/L	4.8	22.2
Phenol, µg/L	65	200

III. PROPOSED PERMIT CONDITIONS

State regulations require that Ecology base permit discharge limits on the:

- Technology and treatment methods available to treat specific pollutants (technology-based). Technology-based limits are set by the EPA and published as a regulation, or Ecology develops limits on a case-by-case basis (40 CFR 125.3, and RCW 90.48). Dischargers must treat wastewater using all known, available, reasonable methods of prevention, control, and treatment (AKART).
- Effects of the pollutants to the POTW (local limits). Wastewater must not interfere with the operation of the POTW.
- Applicable requirements of other local, state and federal laws.

Ecology applies the most stringent of these limits to each parameter of concern and further describes the proposed limits below.

The limits in this permit reflect information received in the application and from supporting reports (engineering, hydrogeology, monitoring, etc.). Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the State of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, and are not listed in regulation.

Ecology does not usually develop permit limits for pollutants that were not reported in the permit application but that may be present in the discharge. The permit does not authorize the discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology if significant changes occur in any constituent. Industries may be in violation of their permit until the permit is modified to reflect additional discharge of pollutants.

A. Technology-Based Effluent Limits

All waste discharge permits issued by Ecology must specify conditions requiring available and reasonable methods of prevention, control, and treatment (AKART) of discharges to waters of the state (RCW 90.48).

Existing federal categorical limits for this facility are found under 40 CFR Part 410 Subpart B. Ecology determined that AKART for this facility is equivalent to the federal categorical limits found under 40 CFR Part 410 Subpart B.

The wastewater treatment plant has been in continuous operation since the early 1970s and Ecology has no record of an approved engineering report.

Ecology determined, based on compliance with the permit, that the facility meets the minimum requirements demonstrating compliance with the AKART standard and federal effluent guidelines if the following is met:

40 CFR 410.26 Pretreatment standards for new sources (PSNS)

Any new source subject to this subpart that introduces process wastewater pollutants into a publicly owned treatment works must comply with 40 CFR part 403.

Section S5 of the permit contains the general and specific prohibitions listed in 40 CFR part 403.

B. Effluent Limits Based On Local Limits

To protect the city of Washougal Wastewater Treatment Plant from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, Ecology believes it necessary to impose limits for certain parameters. Ecology based these limits on local limits, prohibitions and requirements for special agreements established by the city of Washougal Wastewater Treatment Plant and codified in an ordinance. Applicable limits for this discharge include limits listed in Table 4.

Table 4: Limits Based on Local Limits^(a), Prohibitions^(b) or Requirements for Special Agreements^(c).

EFFLUENT LIMITS		
Parameter	Average Monthly	Maximum Daily
Biochemical Oxygen Demand, 5-day (BOD ₅), milligrams per liter (mg/L)	-	300 ^c
Total Suspended Solids (TSS), mg/L	-	300 ^c
pH	6.0-9.0 ^b	
Arsenic, micrograms per liter (mg/L)	-	0.08 ^a
Cadmium, mg/L	-	0.05 ^a
Chromium, mg/L	-	1.3 ^a
Copper, mg/L	-	1.5 ^a
Lead, mg/L	-	0.4 ^a
Mercury, mg/L	-	0.02 ^a
Molybdenum, mg/L	-	0.15 ^a
Nickel, mg/L	-	0.95 ^a
Selenium, mg/L	-	0.07 ^a
Silver, mg/L	-	0.4 ^a
Zinc, mg/L	-	3.0 ^a
Oil and grease (total petroleum and vegetable oil), mg/L	-	100 ^a

C. Comparison Of Effluent Limits With Limits of The Previous Permit Issued on July 1, 2003.

Previous effluent limits and proposed effluent limits are compared in Table 5.

Table 5: Comparison of Effluent Limits

Parameter	Basis of the Limit	Previous Effluent Limits: Outfall # 001		Proposed Effluent Limits: Outfall # 001	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Flow, gpd	Requested /POTW can accommodate	400,000	700,000	400,000	700,000
Biochemical Oxygen Demand, 5-day (BOD ₅), milligrams per liter (mg/L)	Requirement for a special agreement	-	-	-	300
Total Suspended Solids (TSS), mg/L	Requirement for a special agreement	-	-	-	300
pH	Local prohibitions	6.0-9.0		6.0-9.0	
Arsenic, micrograms per liter (mg/L)	Local limits	-	-	-	0.08
Cadmium, mg/L	Local limits	-	-	-	0.05
Chromium, mg/L	Local limits	-	1.3	-	1.3
Copper, mg/L	Local limits	-	1.5	-	1.5
Lead, mg/L	Local limits	-	0.4	-	0.4
Mercury, mg/L	Local limits	-		-	0.02
Molybdenum, mg/L	Local limits	-	0.15	-	0.15
Nickel, mg/L	Local limits	-	-	-	0.95
Selenium, mg/L	Local limits	-	-	-	0.07
Silver, mg/L	Local limits	-	-	-	0.4
Zinc, mg/L	Local limits	-	3.0	-	3.0
Oil and grease (total petroleum and vegetable oil), mg/L	Local limits	-	100	-	100

Ecology proposes to include all local limits & prohibitions and triggers for special agreements to assure compliance with a local ordinance and protect POTW.

D. Design Criteria

According to WAC 173-216-110 (4), neither flows nor waste loadings may exceed approved design criteria, however, Ecology has no records of approval of an engineering report that specifies the design criteria for the wastewater treatment plant at this facility.

IV. MONITORING REQUIREMENTS

Ecology requires monitoring, recording, and reporting (WAC 173-216-110) to verify that the treatment process functions correctly and that the discharge complies with the permit's effluent limits.

Previous and proposed monitoring schedule is compared in Table 6.

Table 6: Comparison of Effluent Limits

Parameter and Units	Sample point	Sample Type	Previous Sampling Frequency	Proposed Sampling Frequency	Basis for change
Flow, gpd	The discharge side of the equalization tank	Metered	Continuous ¹	Continuous	A
Biochemical Oxygen Demand, 5-day (BOD ₅), milligrams per liter (mg/L)	Effluent pump station wet well	24-hour composite (24HC)	Monthly	Quarterly	B/E
Total Suspended Solids (TSS), mg/L	Effluent pump station wet well	24HC	Monthly	Quarterly	B/E
pH	Effluent pump station wet well	Metered	Continuous	Continuous	A
Arsenic, micrograms per liter (mg/L)	Effluent pump station wet well	24HC	None	Quarterly	C/D
Cadmium, mg/L	Effluent pump station wet well	24HC	None	Annual	C/E
Chromium, mg/L	Effluent pump station wet well	24HC	Monthly	Annual	B/E
Copper, mg/L	Effluent pump station wet well	24HC	Monthly	Annual	B/E
Lead, mg/L	Effluent pump station wet well	24HC	Monthly	Annual	B/E
Mercury, mg/L	Effluent pump station wet well	24HC	None	Annual	C/E
Molybdenum, mg/L	Effluent pump station wet well	24HC	Monthly	Annual	B/E

¹ Continuous means uninterrupted except for brief lengths of time for calibration, for power failure, or for unanticipated equipment repair or maintenance. Sampling shall be taken once a day when continuous monitoring is not possible.

Parameter and Units	Sample point	Sample Type	Previous Sampling Frequency	Proposed Sampling Frequency	Basis for change
Nickel, mg/L	Effluent pump station wet well	24HC	None	Annual	C/E
Selenium, mg/L	Effluent pump station wet well	24HC	None	Quarterly	C/D
Silver, mg/L	Effluent pump station wet well	24HC	None	Annual	C/E
Zinc, mg/L	Effluent pump station wet well	24HC	Monthly	Annual	B/E
Oil and grease (total petroleum and vegetable oil), mg/L	Effluent pump station wet well	24HC	Monthly	Annual	B/E
Phenol, mg/L	Effluent pump station wet well	Grab	Monthly	None	F
A-no change. B-reduction for good performance. C-local limit. D-reasonable potential to exceed local limit possible. E-no reasonable potential to exceed local limit. F-removed from the local limit list.					

Ecology details the proposed monitoring schedule under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

V. OTHER PERMIT CONDITIONS

A. Reporting and Recordkeeping

Ecology based permit condition S3 on our authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110 and CFR 403.12 (e),(g), and (h)).

B. Operations and Maintenance

Ecology requires industries to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state regulations (WAC 173-240-080 and WAC 173-216-110). The facility must review an operation and maintenance manual at least annually and confirm this review by letter to Ecology. Implementation of the procedures in the Operation and Maintenance Manual ensures the facility's compliance with the terms and limits in the permit.

C. Prohibited Discharges

Ecology prohibits certain pollutants from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

D. Dilution Prohibited

Ecology prohibits the facility from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limits.

E. Spill Plan

This facility stores a quantity of chemicals on-site that have the potential to cause water pollution if accidentally released. Ecology can require a facility to develop best management plans to prevent this accidental release [section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080].

The mill developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the facility to update this plan and submit it to Ecology.

F. Slug Discharge Plan

Ecology determined that the Permittee has the potential for a batch discharge of wasted activated sludge or a spill that could adversely affect the treatment plant therefore the proposed permit requires a slug discharge control plan (40 CFR 403.8 (f)).

G. General Conditions

Ecology bases the standardized General Conditions on state and federal law and regulations. They are included in all State Waste Discharge permits issued by Ecology.

VI. PUBLIC NOTIFICATION OF NONCOMPLIANCE

Ecology may annually publish a list of all industrial users in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters in a local newspaper. Accordingly, this permit condition informs the Facility that noncompliance with this permit may result in publication of the noncompliance.

VII. PERMIT ISSUANCE PROCEDURES

A. Permit Modifications

Ecology may modify this permit to comply with new or amended state or federal regulations.

B. Proposed Permit Issuance

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limits and conditions believed necessary to control toxics. Ecology proposes that the permit be issued for five years.

VIII. REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

Laws and Regulations(<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information

(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

Appendices

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

Ecology proposes to reissue a permit to Pendleton Woolen Mills Washougal Mill. The permit prescribes operating conditions and wastewater discharge limits. This fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

Ecology placed a Public Notice of Application on June 16, 2008, and June 23, 2008, in the *Columbian* to inform the public about the submitted application and to invite comment on the reissuance of this permit.

Ecology will place a Public Notice on February 11, 2009, in the *Columbian* to inform the public and to invite comment on the proposed reissuance of this State Waste Discharge permit as drafted.

The Notice –

- Tells where copies of the draft Permit and Fact Sheet are available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website.).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Asks people to tell us how well the proposed permit would protect the receiving water.
- Invites people to suggest fairer conditions, limits, and requirements for the permit.
- Invites comments on Ecology's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the Comment Period
- Tells how to request a public hearing of comments about the proposed State Waste Discharge Permit.
- Explains the next step(s) in the permitting process.

Ecology has published a document entitled **Frequently Asked Questions about Effective Public Commenting** which is available on our website at <http://www.ecy.wa.gov/biblio/0307023.html>.

You may obtain further information from Ecology by telephone, (360) 407-6280, or by writing to the permit writer at the address listed below.

Industrial Unit Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

The primary author of this permit and fact sheet is Jacek Anuszewski, P.E.

APPENDIX B—GLOSSARY

AKART--The acronym for “all known, available, and reasonable methods of prevention, control and treatment.” AKART is a technology-based approach to limiting pollutants from wastewater discharges which requires an engineering judgment and an economic judgment. AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and 520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

Alternate Point of Compliance--An alternative location in the ground water from the point of compliance where compliance with the ground water standards is measured. It may be established in the ground water at locations some distance from the discharge source, up to, but not exceeding the property boundary and is determined on a site specific basis following an AKART analysis. An “early warning value” must be used when an alternate point is established. An alternate point of compliance must be determined and approved in accordance with WAC 173-200-060(2).

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Annual Average Design Flow (AADF)--The average of the daily flow volumes anticipated to occur over a calendar year.

Average Monthly Discharge Limit--The average of the measured values obtained over a calendar month's time.

Background water quality--The concentrations of chemical, physical, biological or radiological constituents or other characteristics in or of ground water at a particular point in time upgradient of an activity that has not been affected by that activity, [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95 percent upper tolerance interval with a 95 percent confidence based on at least eight hydraulically upgradient water quality samples. The eight samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards--National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations. In addition it includes as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Ecology may conduct additional sampling.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring--Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Early Warning Value--The concentration of a pollutant set in accordance with WAC 173-200-070 that is a percentage of an enforcement limit. It may be established in the effluent, ground water, surface water, the vadose zone or within the treatment process. This value acts as a trigger to detect and respond to increasing contaminant concentrations prior to the degradation of a beneficial use.

Enforcement limit--The concentration assigned to a contaminant in the ground water at the point of compliance for the purpose of regulation, [WAC 173-200-020(11)]. This limit assures that a ground water criterion will not be exceeded and that background water quality will be protected.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Ground water--Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial User--A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference--A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits--Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limit--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Maximum Day Design Flow (MDDF)--The largest volume of flow anticipated to occur during a one-day period, expressed as a daily average.

Maximum Month Design Flow (MMDF)--The largest volume of flow anticipated to occur during a continuous 30-day period, expressed as a daily average.

Maximum Week Design Flow (MWDF)--The largest volume of flow anticipated to occur during a continuous 7-day period, expressed as a daily average.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. It is the negative logarithm of the hydrogen ion concentration. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Pass-through--A discharge which exits the POTW into waters of the-State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

Peak Hour Design Flow (PHDF)--The largest volume of flow anticipated to occur during a one-hour period, expressed as a daily or hourly average.

Peak Instantaneous Design Flow (PIDF)--The maximum anticipated instantaneous flow.

Point of Compliance--The location in the ground water where the enforcement limit shall not be exceeded and a facility must be in compliance with the Ground Water Quality Standards. It is determined on a site specific basis and approved or designated by Ecology. It should be located in the ground water as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless an alternative point of compliance is approved.

Potential Significant Industrial User--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 percent of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

Ecology may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

POTW--The acronym for "publicly owned treatment works".

Quantitation Level (QL)--A calculated value five times the MDL (method detection level).

Reasonable Potential--A reasonable potential to cause a water quality violation, or loss of sensitive and/or important habitat.

Significant Industrial User (SIU)--

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge--Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

Solid waste--All putrescible and non-putrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, contaminated soils and contaminated dredged material, and recyclable materials.

Soluble BOD₅--Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 um filter prior to running the standard BOD₅ test is sufficient to remove the particulate organic fraction.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

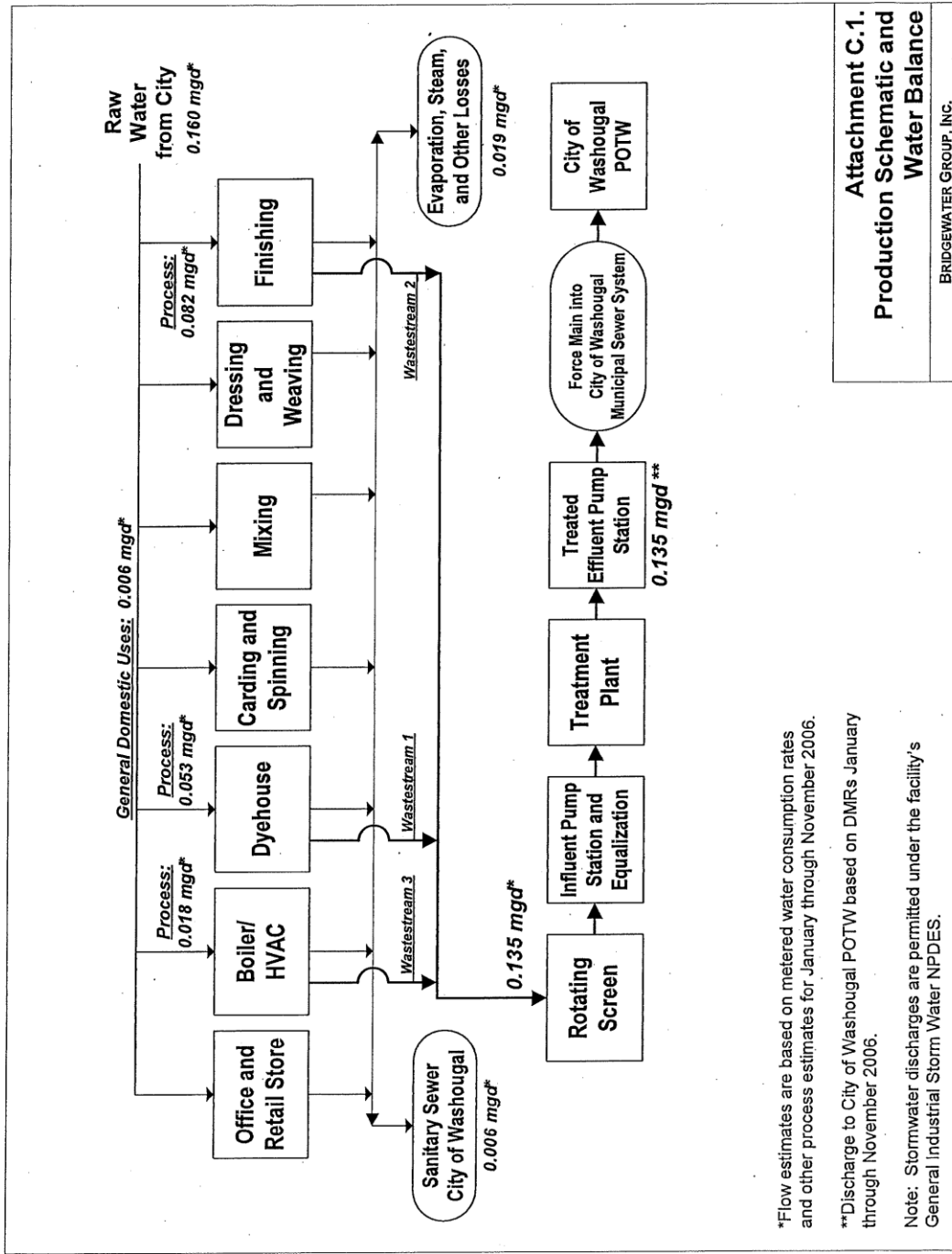
Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

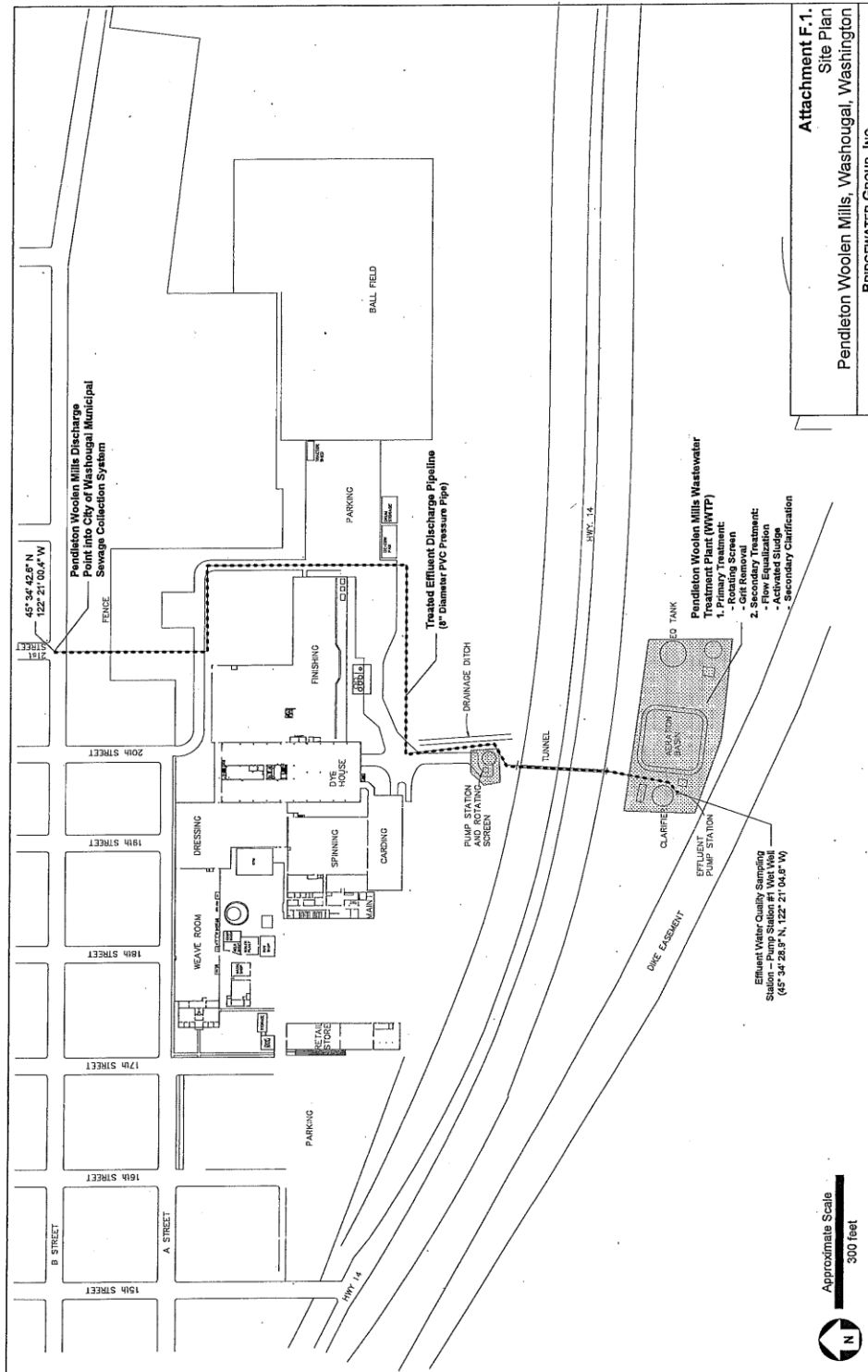
Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

*FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6002
FACILITY NAME PENDLETON WOOLEN MILL, WASHOUGAL MILL
MARCH 20099*

APPENDIX C—SCHEMATICS AND PLANS



FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6002
 FACILITY NAME PENDLETON WOOLEN MILL, WASHOUGAL MILL
 MARCH 20099



APPENDIX D—RESPONSE TO COMMENTS

Comments were received from Charles Bishop, Pendleton Woolen Mills, on February 27, 2009. The following are the comments and Ecology responses.

Pendleton Woolen Mills Comment:

We have one comment that we would like considered for modification in the final permit. In Condition S2.A. of the draft permit, arsenic (As), cadmium (Cd), mercury (Hg), nickel (Ni), selenium (Se), and silver (Ag) are proposed to be added as routine monitoring parameters with the following frequencies:

- Quarterly – As, Se
- Annually – Cd, Hg, Ag

These parameters are not included on our current permit. We understand and accept the addition of these metals is to demonstrate ongoing compliance with the City of Washougal's local limits [WMC 14.24.080(1)]. We also accept the annual monitoring requirements for Cd, Hg, and Ag.

In the *Fact Sheet for State Waste Discharge Permit ST 6002* (Ecology, December 2008), Table 6 indicates as a basis for requiring quarterly monitoring for As and Se, there is "reasonable potential to exceed local limit." At Ecology's request, PWM collected an effluent sample on September 30, 2008 and completed analysis for all of Washougal's local limits. As shown below, As and Se were not detected in the sample and the reporting limits were both below the local limit values.

- Arsenic – Effluent <0.05 mg/L; Local Limit = 0.08 mg/L
- Selenium – Effluent <0.035 mg/L; Local Limit = 0.07 mg/L

We do not believe we have any sources of arsenic or selenium that would pose a risk of exceeding the local limits as suggested in the *Fact Sheet*. We will perform quarterly monitoring as proposed in the draft permit to demonstrate compliance with the local limits. However, we propose that the monitoring provision in Condition S2.A. be modified to allow a reduction in monitoring to annual (consistent with the other nine metals monitored), if the results from four consecutive quarterly monitoring episodes are below the permitted effluent limits in Condition S1 of the draft permit. This could be added simply as footnote "d" to the table in Condition S2.A.

Ecology:

Ecology concurs with the request and reduces monitoring for arsenic and selenium from quarterly to annual after the first year of monitoring; providing that the permit limits for arsenic and selenium are met during the first year of quarterly monitoring.